

The role of three-dimensional computed tomography angiography in accurate characterization of multiple pulmonary stenosis

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A 20-year-old man with Alangille syndrome presented with exertion fatigue for 3 months. He was previously asymptomatic although diffuse peripheral pulmonary stenosis and a mild enlargement and hypertrophy of the right ventricle were known. There was no involvement of liver or kidneys. Computed tomography angiography was requested to assess the pulmonary tree. While standard images gave precise characterization of the stenosis, three-dimensional reconstruction images accurately visualized multiple stenosis, highlighting the anatomy of the pulmonary tree and enabling a precise localization of areas of stenosis. There was an enlargement of the pulmonary trunk while peripheral pulmonary arteries had multiple zones of localized severe stenosis. Figure 1A and B show the pulmonary artery and main branches in

a posterior (Fig. 1A) and superior (Fig. 1B) view. They show a severe stenosis of proximal upper lobar artery of right artery (truncus anterior) involving its bifurcation, ending in a post-stenotic dilatation (Fig. 1A, B, white arrows) and a long and severe stenosis in the inferior lobar artery (Fig. 1A, yellow arrow). In the left superior lobar artery, a focal and less severe stenosis (Fig. 1B, yellow arrow) is followed by a more severe and long stenosis (Fig. 1B, red arrow). A more posterior view of right artery with multiple stenosis can be seen in Figure 1C (arrows). Distal branches of the left pulmonary artery were also stenotic (Fig. 1D, arrows). The patient underwent a transcatheter interventional approach to peripheral pulmonary stenosis to alleviate elevation of the right ventricular pressure and prevent right-sided heart failure.

Conflict of interest: None declared

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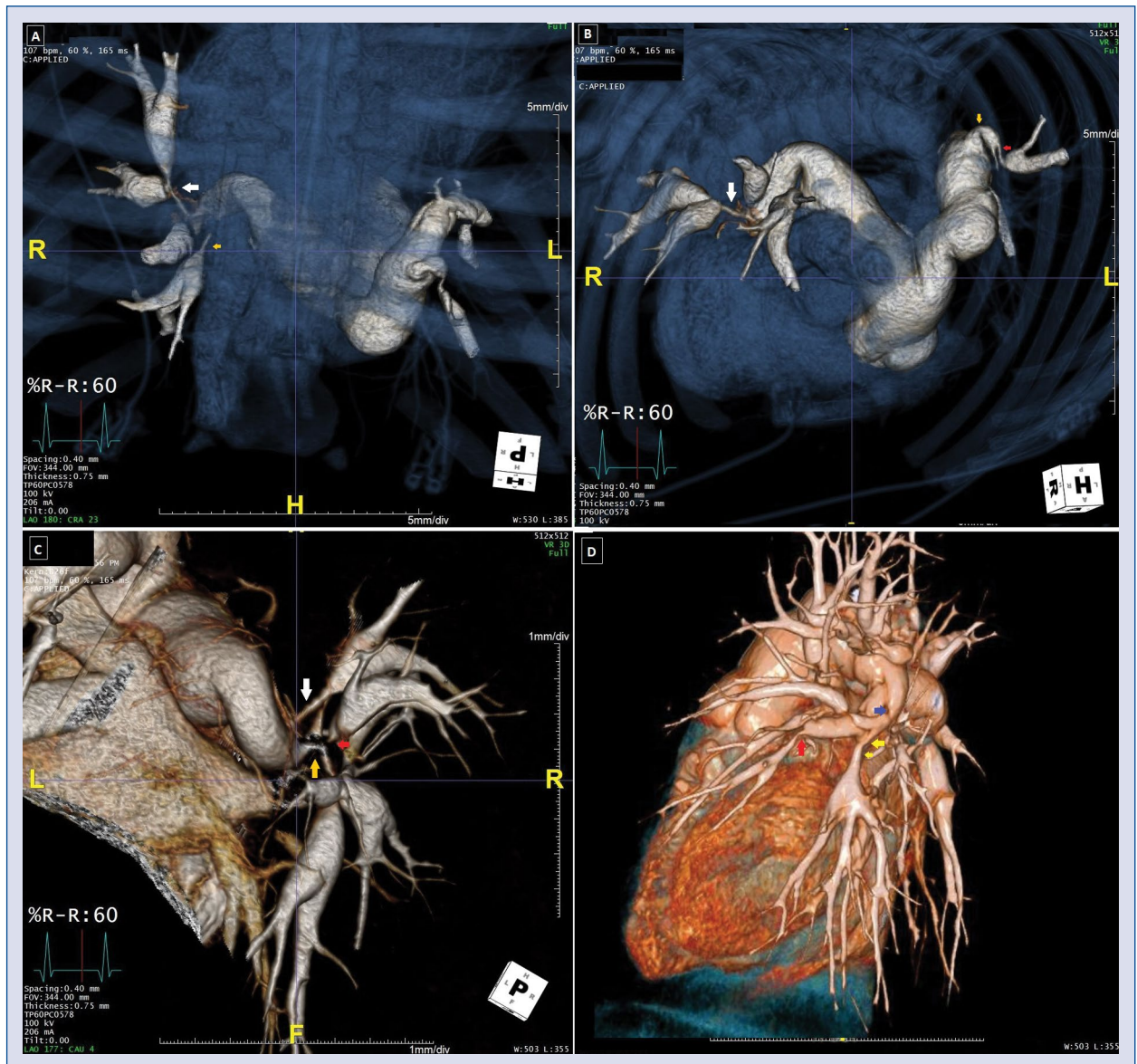


Figure 1. A–D. Three-dimensional computed tomography reconstruction images (see text for details).